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La Salle College

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VIRTUS ET SCIENTIA
COLLEGIUM DE LA SALLE
INSTITUTUM A.D. MDCCCLXIII

Catalogue 1914—1915

UNIVERSITY OF ILLINOIS
JUN 13 1914
PRESIDENT'S OFFICE

La Salle College

AND

La Salle College High School

CONDUCTED BY THE

BROTHERS OF THE CHRISTIAN SCHOOLS

1914—1915

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OFFICERS OF THE COLLEGE

Rev. Brother Denis Edward, F. S. C., President and Treasurer.

Rev. Brother Eliphus, F. S. C., Vice-President.

Rev. Brother Aloysius, F. S. C., Secretary.

BOARD OF MANAGERS

Most Rev. Edmond F. Prendergast, D. D., Honorary President.

Rev. William P. Masterson, P. P.

Gen. Edward deV. Morrell.

James J. Ryan, G. C. S. G.

Rev. Brother A. Philip, F. S. C

Rev. Brother Denis Edward, F. S. C.

Rev. Brother Aloysius, F. S. C., Secretary.

Rev. Brother Isidore, F. S. C.

Rev. Brother Eligius, F. S. C.

1914—COLLEGE CALENDAR—1915

1914

Sept. 2, 3, 4, Entrance and Condition Examinations.

Sept. 8, Tuesday, Opening of the College—Organization of the Classes.

Nov. 9, Monday, First Quarterly Examination.

Nov. 16, Monday, Second Quarter begins.

Nov. 26, Thursday, Thanksgiving Day—Holiday.

Dec. 23, Wednesday, Christmas Recess begins.

1915

Jan. 4, Monday, Studies resumed.

Jan. 25, Monday, Semi-annual Examinations begin.

Feb. 1, Monday, Third Quarter begins.

Feb. 22, Monday, Washington's Birthday—Holiday.

Mar. 17, Wednesday, St. Patrick's Day—Holiday.

Mar. 31, Wednesday, Easter Recess begins at noon.

April 6, Tuesday, Studies resumed.

April 12, Monday, Third Quarterly Examinations begin.

April 15, Thursday, Fourth Quarter begins.

May 3, Monday, Theses of Candidates for Degrees to be handed in.

June 7, Monday, Fourth Quarterly Examinations begin.

June 14, Monday, Commencement Week.

ORGANIZATION

On March 20, 1863, the late Most Rev. James Frederick Wood, D.D., then Bishop of Philadelphia, in conjunction with a committee consisting of Christian Brothers, Reverend Clergy and laymen, obtained from the State of Pennsylvania a charter incorporating La Salle College in Philadelphia.

Their aim was to supply within the limits of Philadelphia the want of a College for higher Catholic education.

The College offers two departments of study, the Department of Arts and the Department of Civil Engineering. The courses in the former lead to the degrees of Bachelor of Arts and Master of Arts; in the latter, to the degrees of Bachelor of Science in Civil Engineering and Civil Engineer. The requirements for admission into both departments and the respective courses of study will be found on pages 8 and 13.

Besides the College proper, there is a High School department. This department offers two courses—a modern language course and a business course. The former, which corresponds to the ordinary four-year high school course, prepares directly for college entrance; the latter, which offers two years of commercial work, may be elected after the completion of two years' work in a regular high school course.

In both the Collegiate and High School departments, every attention is bestowed on the moral and religious training of the student. Christian Doctrine is taught in all the classes. Regular attention to religious duties is required of all students.

FEES

Collegiate Department, per quarter	$25.00
Commercial Department, "	25.00
High School Department, "	20.00
Preparatory Department, "	20.00
Lunch at College, "	12.50
Use of Typewriter, per year	5.00
Gymnasium, "	5.00
Graduation Fee	10.00
Certificate Fee	5.00
Condition Examination Fee	2.00
Laboratory Fee, for any one course	10.00
Laboratory Fee, for any one course, High School Department	5.00

Repair of apparatus at expense of student injuring same.

Books and stationery are procured at the College at current prices.

The tuition bills are invariably payable quarterly in advance.

Students whose financial accounts are in arrears will not be retained in the College.

No deduction is made for a student who withdraws during the quarter except for prolonged sickness.

ADMISSION

A student who wishes to enter La Salle College as a candidate for a degree must ordinarily pass examination for admission, either that of the College, or that of the College Entrance Examination Board.

Students who have completed creditably the work of at least one year at other colleges or scientific schools may be admitted without examination to the standing for which their previous training seems to qualify them.

The applicant should furnish: (1) Official statement of his rank or grade in his various college studies; (2) Letters or other evidence, showing the opinion his instructors have formed of his character and scholarship; (3) A letter of honorable dismissal from the college whence he comes.

Each candidate for admission must present himself for examination in the subjects prescribed for the High School Course on pages 37 to 40.

Every candidate for admission is required to furnish a certificate of honorable dismissal from the school or college he has attended, or from any tutor with whom he has studied.

Clear and idiomatic English is expected in all examination papers and note-books written by candidates for admission.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

A candidate who is examined in any study in which a laboratory examination is held will hand in his laboratory note-book at the hour of the *laboratory examination.* These laboratory note-books will be kept for one year in the College office, subject to the order of the owners.

ENTRANCE REQUIREMENTS

These requirements conform to the standards prescribed by the College Entrance Examination Board.

1. ENGLISH.—Candidates for admission to the Freshman class must pass a written examination in English; and no candidate will be admitted whose spelling, diction, or paragraphing is notably defective.

Reading.—A certain number of books are set for reading. The candidate will be required to give evidence of a general knowledge of the subject-matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a number set before him in the examination paper. These topics, which are assigned to test the candidate's power of clear and accurate expression, will call for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified by his teacher, containing compositions or other written work done in connection with the reading of the books. As a preparation for this part of the entrance requirements, it is important that the candidate be well versed in the fundamental principles of rhetoric.

The books selected for reading are:

Shakespeare, Henry V. and Julius Cæsar; Franklin, Autobiography; Goldsmith, The Deserted Village; Hawthorne, The House of the Seven Gables; Dickens, A Tale of Two Cities; Irving, The Sketch Book; De Quincey, Joan of Arc and The English Mail Coach; Poe, Poems; Macaulay, Lays of Ancient Rome; Longfellow, The Courtship of Miles Standish, or Browning, The Pied Piper and Other Poems.

Study and Practice.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the form, structure, and subject-matter. In addition, the candidate may be required to answer questions involving the essentials of English grammar, and on the leading facts in those periods of English history to which the prescribed books belong.

The books set for this part of the examination are:

Shakespeare, Macbeth; Milton, Lycidas, Comus, L'Allegro, and Il Penseroso; Burke, Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay, Life of Johnson, or Carlyle's Essay on Burns.

2. HISTORY.—History of the United States and Civil Government, and (*a*) History of England, or (*b*) History of France, or (*c*) History of Greece and Rome.

3. ALGEBRA.—Wentworth's School Algebra or equivalent.

4. GEOMETRY.—Wentworth's Plane and Solid Geometry or equivalent.

5. TRIGONOMETRY.—Wentworth's Plane Trigonometry.

6. FRENCH.—Grammar, sight translation. Composition based on the following books:

De Maistre, Voyage autour de ma Chambre; Mairet, La Tache du Petit Pierre; Halevy, L'Abbe Constantine; Daudet, La Siege de Berlin, and Merrimee, Colomba.

7. GERMAN.—Grammar, sight translation. Composition based on the following books:

Hillern, Höher als die Kirche; Hauff, Das Kalte Herz; Freytag, Die Journalisten; Storm, Immensee.

8. CHEMISTRY.—A course of at least fifty experiments made by the candidate, with note-book certified by the teacher.

9. PHYSICS.—Knowledge of the general principles of Physics and their application. Each candidate must present a note-book containing a description of at least forty experiments which he has performed. Note-book to be certified by the teacher.

The following will be accepted in place of French and German:

Latin.—Grammar, Bennett or equivalent, including prosody; Cæsar, Gallic War, Books I–IV; Cicero, six orations; reading at sight of a short passage of easy Latin prose; Virgil, Æneid, Books I–VI; Latin prose composition.

Greek.—Grammar, Goodwin's, or equivalent, including prosody; Xenophon, Anabasis, Books I–III; Homer, Iliad, Books I–III; Greek prose composition, Jones, twenty exercises, or equivalent.

Students presenting Latin or Greek for admission will be required to take a special course in French and German during the Freshman year, and will thereafter follow the regular program.

GENERAL REGULATIONS

All students should be present at 8.45 A. M.

No interruption is permitted in class studies except for urgent reasons.

No one may leave the class before 2.30 P. M. without presenting a valid excuse in writing from his parent or guardian. This permission is given by the President on the approval of the teacher in charge of the class.

Lessons omitted on account of absence are regarded as failures unless made up outside of school hours.

No student is allowed to discontinue any subject obligatory in the course he is pursuing.

Absence from an examination, unless excused by the Faculty, is considered a failure.

A student absent from ten recitations in any branch will not be allowed to take examination in that branch. Special examination may be arranged for, with professor of that branch. The examination fee of two dollars must be paid before the examination.

The President of the College reserves the right to refuse all privileges, such as leaves of absence, to students whose class records are not up to the required standard.

All damage to the property of the College must be repaired at the expense of the student who caused such damage.

Examinations.—Examinations for admission are held at the College on the two days preceding the opening of each term.

The regular College term examinations are held during the last week of January and the second week of June.

In case of illness or for some other equally grave cause, a student may have his examination postponed.

For students who fail in the regular examinations, condition examinations are held at the College on the two days preceding the opening of the first term, and also on the first day of the Christmas and Easter recesses. Students are required to pay two dollars for an examination in each subject in which they are conditioned.

Rating.—The final standing of each student in any subject is determined by his examination results and his class-marks in that subject. Seventy per cent. constitutes a pass in each subject. A statement of the numerical standing of the student in each subject is sent to the parent or guardian at the close of each term.

Promotion.—No student will be allowed to take up Freshman work whose conditions on entrance exceed one and one-half units.* All entrance conditions must be removed before the beginning of Sophomore year.

No student will be allowed to take up Sophomore work whose failures in Freshman work exceed one and one-half units. No student will be allowed to take up Junior work whose failures exceed one unit in the work of the two previous years. No student will be allowed to take up Senior work who has any conditions.

Studies.—The studies of the course in civil engineering are prescribed throughout. In the Arts course, Freshman and Sophomore work is prescribed, and electives are offered in the Junior and Senior years. No elective course will be given unless there is a sufficient number of applicants.

Degrees.—Every candidate for a degree is required to present a typewritten thesis on a subject connected with

* A unit is five recitations a week for one year in any subject. Two hours of laboratory work or two hours of drawing are equivalent to one hour's recitation.

his course. The subject selected must be submitted for approval to the professor of the department to which it belongs, on or before February 1. Such help and guidance may be offered the candidate as the professor may judge right, and the completed thesis shall be handed in for approval on or before May 30.

Theses shall contain not less than two thousand words, and must be typewritten on paper 13x8, with a margin of an inch and one-half. Science theses must be accompanied by the necessary drawings and illustrations. All approved theses become the property of the College and are placed in charge of the Librarian.

If a student fail to present his thesis, or if the thesis be rejected, he shall not be recommended for his degree.

At the discretion of the Faculty, a certificate of proficiency may be given to a student who has followed, under the direction of the Faculty, a special course of one or more subjects, and who gives evidence of satisfactory proficiency.

COURSE OF STUDIES

FRESHMAN CLASS *

First Term		Second Term	
French (4)	63	French (4)	64
German (4)	70, 71	German (4)	70, 71
English (4)	52, 55	English (4)	56
History (2)	75	History (2)	76
Mathematics (3)	91	Mathematics (5)	89
Physics (2)	102	Physics (2)	102
Physical Laboratory (2)		Physical Laboratory (2)	
Chemistry (2)	7	Chemistry (2)	7
Chemical Laboratory (3)	8	Chemical Laboratory (2)	8
Elocution (1)	96	Elocution (1)	96
Christian Doctrine (2)	120	Christian Doctrine (2)	120

SOPHOMORE CLASS

First Term		Second Term	
French (4)	65	French (4)	65
German (4)	72	German (4)	72
English (5)	53, 54	English (5)	56
History (3)	77	History (3)	78
Mechanics (3)	93	Mechanics (3)	93
Geology (2)	67	Geology (2)	68
Elocution (1)	97	Elocution (1)	97
Christian Doctrine (2)	121	Christian Doctrine (2)	121
Chemistry (2)	9	Chemistry (2)	9
Chemical Laboratory (3)	10	Chemical Laboratory (2)	10

* The figures in parentheses indicate the number of periods per week; the others indicate the paragraphs in which the course is outlined.

JUNIOR CLASS

First Term	Second Term
French (4) 66	French (4) 66
German (4) 73	German (4) 74
English (5) 57, 58	English (5) 59
Philosophy (4) 106, 107	Philosophy (4) 108, 109
Physics (3) 101	Physics (3) 101
Physical Laboratory (3) ..	Physical Laboratory (3) ..
Oratory (1) 98	Oratory (1) 98
Christian Doctrine (2) 122	Christian Doctrine (2) 122
Astronomy (2) 1	Astronomy (1) 2

Electives

Biology (4) 3	Biology (4) 4
American Political Institutions 83	European Constitutions (1) 82
Church History (1) 87	Church History (1) 87
Chemistry (5) 11, 12	

SENIOR CLASS

First Term	Second Term
English (4) 61	English (4) 62
Philosophy of History (2).. 86	Philosophy of History (2).. 86
Ontology and Cosmic Philosophy (4) 110, 111	Psychology (4) 112
History of Philosophy (2)..119	History of Philosophy (2)..119
Economics (2) 48	Economics (2) 48
Oratory (1) 99	Oratory (1) 99
Natural Theology (2) 113	Ethics (2) ..114, 115, 116, 117
French (4) 65	French (4) 65
German (4) 74	German (3) 74

ELECTIVES

Biology (2)	5	Biology (2)	6
Principles of Government (3)	49	Sociology (3)	51
Public Finance (2)	50	Representative Government (2)	84
American History (2)	85	American History (2)	85
Chemistry (5)	13		

COURSE IN CIVIL ENGINEERING

FRESHMAN CLASS

First Term		Second Term	
Mathematics (3)	91	Analytical Geometry (5)	89, 90
Physics (2)	100	Physics (2)	100
Physical Laboratory (2)	...	Physical Laboratory (2)	...
Surveying (2)	14	Surveying (3)	15
Chemistry (2)	7	Chemistry (2)	7
Chemistry, Laboratory Work (2)	8	Chemistry, Laboratory Work (2)	8
English (4)	52, 55	English (4)	56
German (4)	70, 71	German (4)	70, 71
Descriptive Geometry (2)	43	Descriptive Geometry (2)	43
Drafting (4)	38, 39	Drafting (4)	38, 39
Elocution (1)	96	Elocution (1)	96
Christian Doctrine (2)	120	Christian Doctrine (2)	120

Summer Field Work, three weeks 33

SOPHOMORE CLASS

Firt Term		Second Term	
Mechanics (3)	93	Mechanics (2)	93
Calculus (3)	92	Calculus (3)	92
Surveying (3)	17	Surveying (2)	17
Drafting (5)	40	Graphic Statics (2)	45
Geology (2)	67	Design Problems (5)	46
English (4)	53, 54	Geology (2)	68
German (4)	72	Building Materials and Application (2)	37
Elocution (1)	97	English (4)	56
Christian Doctrine (2)	121	German (4)	72
Chemistry (2)	9	Elocution (1)	97
Chemical Laboratory (3)	10	Christian Doctrine (2)	121
		Chemistry (2)	9
		Chemical Laboratory (2)	10

Summer Field Work, three weeks 34

JUNIOR CLASS

First Term

Mechanics and the Strength of Materials (2) 94
Masonry Structures and Foundations (3) 18, 21
Metallurgy (2) 13
Physics (3) 103
Physical Laboratory (3) ...104
Road and Railroad Engineering (2) 16, 20
Design Problems (2) 46
Analytical Mechanics (2) .. 94
Surveying (2) 17
Astronomy (2) 1
Oratory (1) 98
Philosophy (3) 106, 107
Christian Doctrine (2) 122

Second Term

Astronomy (2) 2
Physics (3) 101
Physical Laboratory (3) ...
Masonry Structures (3) ... 21
Trusses (4) 27
Roads and Railroad Engineering (3) 20, 29
Tunneling (2) 24
Excavating (2) 25
Design Problems (2) 46
Oratory (1) 98
Philosophy (2) 108, 109
Christian Doctrine (2) 122

SENIOR CLASS

First Term

Bridges and Building (5) .. 28
Hydraulics (3) 32
Water Supply (3) 30
Sewers (2) 26
Cement Laboratory (4) 23
Design Problems (5) 47
Drafting (2) 42
English (1) 53
Oratory (1) 99
Natural Theology (2) 113

Second Term

Bridges (5) 28
Contracts and Specifications (2) 31
Railroad Engineering (3) .. 36
Design Problems (5) 47
Drafting (3) 42
English (1) 53
Oratory (1) 99
Thesis (2)
Ethics (2) 114, 117

COURSE OF STUDY

ASTRONOMY

1. Descriptive Astronomy.—Fundamental principles; solution of problems; observatory visits. Young, *Manual of Astronomy.*

2. Practical Astronomy.—Study of instruments; methods of taking and reducing observations to determine azimuth, latitude, time and longitude. The sextant and engineer's transit are the chief instruments used in observational work.

BIOLOGY

3. Natural History of Plant Groups.—Structure of plants and function of the various organs. Study of phanerogams and cryptogams. Histology and physiology of plants.

4. Zoology.—Structure of leading types of animals; function of organs; classification; economic relations; geographical distribution. Lectures, recitations, laboratory work, visits to museums.

5. Human Anatomy and Physiology.—Lectures, illustrated with charts, models, and lantern slides.

6. The Nervous System and Its Terminal Organs.—Lectures and illustrations, with charts, models and lantern slides.

CHEMISTRY

7. General Inorganic Chemistry.—Description of the non-metallic and metallic elements and their compounds. Lectures illustrated by experiments. Notebooks on the lectures required.
Smith's *General Chemistry.*

8. Chemical Laboratory.—Experiments covering a systematic study of the chemical and physical properties of the more important elements and their compounds.

9. Qualitative Analysis.—Description of a method of separation which experience has proved to be sufficiently simple and accurate.

10. Laboratory Work.—Separation of ordinary bases and acids. Medicus, Special Tests.

11. Quantitative Analysis.—A study of the methods of quantitative determinations.

12. Laboratory Work.—Quantitative determination of the constituents of familiar compounds and alloys.

13. Metallurgy of Iron and Steel.—Study of the physical and chemical properties, as well as the constitution and manufacture of cast-iron, wrought iron and steel.
Stoughton, *The Metallurgy of Iron and Steel.*

14. Land Surveying.—Theory and general principles. Adjustment and use of chain, tape, rod, vernier, level, transit and compass. Simple leveling with ordinary level, hand level, and barometer. Making of profile. Pacing, chain and compass surveying. Balancing, plotting, supplying omissions, and computing areas.

15. Land Surveying.—Theory, adjustment and use of transit. Transit, stadia, and topographical surveying. Leveling, contour lines, plotting, computing areas, use of plane table.
Ives and Hilts, *Surveying Manual.*

16. Road Engineering.—Location and grading of country roads. Staking out of work. Draining and protection works. Maintenance. Foundations. City streets. Pavements: Stone, wood, asphalt, brick. Tools and machinery employed in road construction. Specifications and contracts regarding roads.
Byrne, *Highway Construction.*

17. Land Surveying.—City surveying, triangulation, hydrographic and mining surveying.

18. Foundations.—Construction of timber foundations. Coffer-dams of timber. Open and pneumatic caissons. Trestle foundations. Piles in foundations. Economical considerations in foundations. Estimates of cost. Methods for deep foundations.
Baker, *Foundations.*
Prelini, *Earth Slopes, Retaining Walls and Dams.*

19. Timber Structure.—Culverts. Pile bents. Frame bents. Bracing compound timber structures. Trestles on curves. Floor details. Connection with embankment, derailing devices, field engineering, and erection of trestle, design and estimates for a completed trestle.
Foster, *Treatise on Modern Trestle Bridges.*

20. Railroad Surveying.—Reconnaissance and preliminary surveys. Organization of work. Simple, compound and transition curves. Turnouts. Cross-section work. Computation of earthwork.
Searle, *Field Engineering.*

21. Masonry Structure.—Theory of the slope of earth embankments; graphical and analytical methods for determining earth pressure as well as the thickness of retaining walls and dams. Arches. Masonry culverts and bridges.
Baker, *Masonry Construction.*

22. Cement and Concrete.—Portland and natural cement; raw materials, methods of manufacture, uses. Laboratory work in testing.

23. Concrete.—Plain and reinforced. Selection of materials, proportions, methods of mixing and depositing; cost. Specifications for cement and steel designs.
Taylor and Thompson, *Concrete, Plain and Reinforced.*

24. Tunneling.—Timbering and lining of tunnels. Excavation of tunnels through rock and through loose and treacherous soils. Subaqueous tunnels. Open cut. Subways. Ventilation of tunnels.
Prelini, *Tunneling.*

25. Excavations.—Earthwork, excavations by hand and machine, rock excavation, hauling on horizontal and inclined roads, hoisting cableways, trench cutting, embankement constructions, dredging and dredging materials.
Prelini, *Earth and Rock Excavation.*
Prelini, *Dredges and Dredging.*

26. Sewers and Sewage Disposal.—Dimensions and materials used, location, precautions in construction, study of examples, estimate of cost, surface drainage in towns and cities, separate and combined systems, capacities of main and branches, grade, flow and discharge of sewers. Methods of sewage disposal, discharge into streams; gravity and chemical precipitation. Filtration.
Fowell, *Sewage System.*

27. Theory of Trusses.—Truss elements; loads and reactions for trusses of various designs, influence lines, and position of loads for maximum bending movement. Wheel-loads and conventional systems of analysis, stress-strain diagrams, secondary stresses in trusses, applications to highway and railroad bridges.
Merriman and Jacoby, *Roofs and Bridges.*

28. Roofs, Bridges and Buildings.—Different classes of bridges, riveted truss or lattice bridges, pin-connected bridge, design of details for roofs and bridges, floor systems, lateral and transverse bracing. The plate girder in detail, swing bridge (different kinds), end-lifting apparatus, machinery for operating cantilever structures, single and double track trestles or viaducts in steel or timber,

elevated railroads, stand-pipes. Complete designs, with estimate of cost for structure and erection.
Merriman and Jacoby, *Roofs and Bridges.*

29. Railroad Economics.—General theory of railroad projects. Probable volume of traffic and its probable growth. Effect of alignment on resources and operating expenses. Methods of railroad management. Construction of railroads; track laying and maintenance, frogs and switches, track accessories, records and reports.
Tratman, *Track and Track Work.*

30. Irrigation and Water Supply.—Drainage areas, rainfall, evaporation. Reservoir construction. Dams for storage. Regulators. Distributing reservoirs and purification of water. Velocity of flow and dimensions of canals. Distributing and lateral canals.

31. Contracts and Specifications.
Johnson, *Contracts and Specifications.*

32. Hydraulics.—Flow of water through orifices and over weirs, gauging of weirs. Flow of water in canals. Formulæ for discharge of water from locks. Motion of water in pipes. System of pipes. Gauging water in rivers. Backflow. Resistance of water in a river, in a canal. Hydraulic motors. Ship railways.
Merriman, *Hydraulics.*

33. Inspection Visits.—Visits to engineering works and manufacturing establishments.

34. Field Work.—Surveying. Compass and transit surveys. Adjustment of instruments. Farm survey. Angle reading, repetition. Azimuth traverse.

35. Field Work.—Leveling. Contour sketching. Topographical surveying.

36. Railroad Survey.—Reconnaissance and preliminary survey. Location of line. Profile and cross-section. Computation of earth work. About two miles of road are run, and the students make all calculations required in the regular routine of office work.

37. Building Materials.—Stones, quarrying, working, employment. Bricks, manufacture and employment. Production and testing of lime and cement; mortar; concrete; timber; metals; miscellaneous materials.

DRAWING

38. Mechanical Drawing.—Use of instruments, geometrical problems, lettering, plans, elevations.

39. Mechanical Drawing.—Elementary projections, intersections, shades, and shadows. Tinting drawings, pen and ink sketching.

40. Stereotomy.—Stone cutting and its applications to culverts, sewers, etc. Tracing and blue prints.

41. Structural Drafting.—Tracing, conventional signs and methods.

42. Graphical Determination of Stresses in Girders and Trusses.—Ten plates required.

43. Descriptive Geometry.—Demonstrations and drawings. Eight plates required.
Wm. Slagle, *Descriptive Geometry.*

44. Plots of surveys, topographical maps, contour maps, profiles.

45. Graphic Statics.—Resolution of concurrent and non-concurrent forces; determination of moments, of internal stresses, of centroids and moments of inertia. Application to roofs and trusses.
Merriman and Jacoby, *Graphic Statics.*

46. Design Problems.—Graphic solution of problems concerning the slope of embankements, earth pressure against retaining walls and dams; stability of retaining walls, dams, and arches. Design of a masonry bridge, with plan, elevation, longitudinal and cross-sections.

47. Bridge Design.—Design of roof trusses and fixed steel bridges. Drawbridges. Elevated steel structures. Skeleton of a steel building. Computations and working drawings are made from specifications for a railroad bridge of short span, and estimates of weights are prepared.

ECONOMICS, SOCIAL AND POLITICAL SCIENCE

48. Study of the elementary principles of political economy. Practical economic problems; taxation, transportation, labor, finance, trusts and monopolies.

49. Principles of Government, legislation, the judiciary, the executive, suffrage, and finance.

50. Public Expenditure.—Sources of State income. Development, classification, incidents and effects of principal taxes.

51. Principles of Sociology.—Psychology of social types. Historical aspects of social organization, both ancient and modern. Study of modern social problems.

ENGLISH

52. Composition and Rhetoric.—A study of the laws of practical English composition. Emphasis is laid on the qualities of diction and on the structure of the sentence and the paragraph. Frequent short themes. Longer themes at intervals. Comments and criticisms.

53. Argumentation and Debate.—The preparation of briefs and forensics, and the public delivery of debates, both formal and extemporaneous.
Baker and Huntingdon, *Principles of Argumentations.*

54. Composition.—Weekly themes, descriptive, narrative, and expository; read and discussed in class; corrected by the instructor and returned with individual criticisms.

55. History of English Literature.—Rapid survey of the growth and development of English literature preparatory to an intensive study of special periods. Reading of representative masterpieces.
Brother Noah, *Manual of English Literature.*

56. History of American Literature.—Study of the growth and special characteristics of American literature as an introduction to an intensive consideration of special periods.

57. Composition.—Themes on popular literary subjects assigned with special reference to the gathering and ordering material.

58. Literature of the Drama.—Study of the origin and development of the English drama. Critical reading of Shakespeare's Hamlet or King Lear.
Woodbridge, *The Dramas: Its Laws and Its Technique.*

Brandes, *William Shakespeare.*

59. English Literature of the Nineteenth Century.—Study of the leading English authors of this period, and a critical reading of selected classics indicated in Brother Azarias' Books and Reading.

60. Anglo-Saxon Literature.—Study of the varying influencing agencies in Old English literature, and the growth and development of Old English thought down to Norman conquest. Critical reading of Boewulf.

Brother Azarias, *Development of Old English Thought.*

61. Poetics.—Study of English verse structure. Exercise in scansion and verse making. Original poems.

Gummere, *Handbook of Poetics.*

62. Philosophy of Literature and Style.—An examination into the fundamental principles of literature and style.

Brother Azarias, *Philosophy of Literature.*
Spencer, *Philosophy of Style.*

FRENCH

63. Intermediate.—Review of grammar; practice in speaking and writing French.

Fraser and Squair, *French Grammar.*
Bazin, *Les Oberlé;* Dumas, *La Question d'Argent;* Hugo, *Ruy Blas;* Chateaubriand, *Extraits.*

64. Advanced.—Practice in speaking and writing French.

Mansion, *French Composition.*
Lamartine, *Méditations.*
Coppée, *Le Luthier de Crémone, Le Trésor.*
Rostand, *La Princesse Lointaine.*

65. Seventeenth Century.—Prose and classic drama.

Bossuet, *Choix de Sermons et d'Oraisons.*
Corneille, *Cinna, Le Cid.*
Moliére, *Le Misanthrope.*
La Fontaine, *Fables.*
Racine, *Andromaque.*

66. The History of French Literature.—The outlines of French literature. Lectures, assigned readings chiefly from authors of the eighteenth and nineteenth centuries.

Doumic, *Histoire de la Littérature Francaise.*

GEOLOGY

67. Descriptive and Determinative Mineralogy; Physical, Historical and Stratigraphical Geology. Lectures and laboratory work.

68. Geology.—Lectures and recitations; more advanced discussion of the subjects treated above.
Dana, *Text-Book of Geology.*

GERMAN

69. Intermediate German.—German Syntax. German prose composition. Critical analysis of construction. Systematic drill in word composition, word derivation and the principles of syntax. Pope's German Composition; Anno 1870; Der Bibliothekar; Das Urteil des Paris.

70. German Grammar, Joynes Meissner.

71. Advanced German.—*Soll und Haben; Maria Stuart; Minna von Barnhelm, Iphigenie auf Tauris.* Prose composition.

72. Advanced German.
Goethe, *Iphigenie, Herman and Dorothea.*
Schiller.
Lessing.

73. Scientific German.—Introduction to technical literature.

74. History of German Literature.

HISTORY

75. Ancient History.—History of Greece, with special reference to its literature, politics, and commerce.

76. Ancient History.—Rome, from the founding of the city to the fall of the Western Roman Empire, with special reference to literature, politics, and commerce.

77. Medieval History.—From the fall of the Western to the fall of the Eastern Roman Empire. The Holy Roman Empire and the Papacy receive special attention.

78. The Renaissance, the revival of learning, the political, economic and religious condition of Europe during the sixteenth century.

79. The Religious Revolt of the Sixteenth Century in Germany.—Economic and ecclesiastical conditions of the century; Luther and the revolt in Germany; wars of religion in France and Germany; the true Reformation.

80. English History.—Special attention to constitutional, economic and social history; the most important institutions of the Mediæval period.

81. French History.—From the establishment of the monarchy to the Revolution in 1789.

82. Europe in the Nineteenth Century.—The struggle for constitutional government and rights; Crimean War and Eastern question; Italian unification; the founding of the German Empire.

83. American Political Institutions.—Nature of State and National system; organization and powers of legislative, executive and judicial departments of Federal Government.

84. Constitutional History of the United States.—Colonial governments and development during the Colonial and the Revolutionary periods.

85. Constitution Making.—Federal and State; development of nationality and democracy; conflicts over "State Rights" and "Nationalism."

86. The Philosophy of History, based principally on the works of Balmes, Schlegel, and Allies.

87. Church History.—From the founding of the Church to the religious revolt of the sixteenth century, based on the works of Allies, Montalembert, Mann, Janssen, and Pastor.

MATHEMATICS

88. Trigonometry.—Plane and Spherical. Wells.

89. Analytical Geometry.—Plotting loci; the straight line, conics and simpler higher plane curves; general equation of the second degree.
Riggs, or Fine & Thompson.

90. Solid Analytical Geometry.—The straight line, plane, surfaces of revolution.
Riggs, or Fine & Thompson.

91. Advanced Algebra.—Binomial theorem; variables and limits; series; theory and properties of equations; solution of numerical equations.
Hawkes, *Advanced Algebra.*

92. Calculus.—Differential and Integral, with applications to geometry, mechanics, engineering and physics.

93. Mechanics.—Statics and Dynamics; elements of hydrostatics.
Loney, *Mechanics and Hydrostatics.*

94. Mechanics of Material.—Resistance and elasticity of materials, cantilever, simple and continuous beams, columns, torsion and shafts, stresses, resilience, tension and compression, flexure in beams, shears and torsion, true and apparent stresses, design and construction of beams in wood, and steel, design of girders.
Merriman, *Mechanics of Material.*

95. Thermodynamics.—Heat, steam, fuel economy, engine construction, engine tests, boiler construction and tests. Lectures supplemented by visits to plants and examinations of machines in operation.
Jamieson, *The Steam Engine.*

ORATORY

96. Study of the Principles of Elocution, with weekly practice.

97. Extempore Speaking.—The aim of this course is to give the student readiness in speaking, with minimum of preparation, on questions of the day.

98. Lectures on the Kinds and Divisions of Oratory, the making and delivery of the oration. Study and analysis of typical British and American argumentative orations.

99. Debating.—Lectures on the principles of debating, preparation of material, and practical exercises in class.

PHYSICS

100. Elementary Mechanics.—Lecture demonstrations and recitations; laboratory work.

101. Heat, Electricity and Magnetism.—Lecture demonstrations and recitations; laboratory work.

102. Light and Sound.—Lecture demonstrations and recitations; laboratory work.

103. Advanced Theory of Electricity and Magnetism.—Lectures and recitations.

104. Electrical Laboratory.—Measurements of precision.

105. Electrical Laboratory.—Experimental studies and tests chiefly in electrolysis and photometry.

PHILOSOPHY

106. Formal Logic.—Ideas, errors as to nature of ideas, nature of judgment; the value of Syllogism.

107. Truth and Science.—Methodology.

108. General Ideology.—How human knowledge is acquired. Knowledge of first principles. Language in relation to the acquisition of knowledge.

109. Criteriology.—Mental faculties as means of attaining truth. Skepticism. Ultimate criterion of certitude.

110. General Metaphysics.—Being and its properties; principles and causes of beings; division of beings.

111. Special Metaphysics.—Cosmology. The world in general; the world in relation to non-living or inorganic bodies; the world, living bodies.

112. Psychology.—The human soul and its faculties; the human soul considered in itself; the human soul in relation to the body.

113. Natural Theology.—Existence and Unity of God. The attributes of God in general. The absolute attributes. The relative attributes.

114. Moral Philosophy.—End of human actions. The subjective principle of human actions. Law, the rule of human actions.

115. Law.—Individual law. Man's duties to God, to himself, and to his fellow-man.

116. Social Law.—Domestic society; civil society.

117. Common Law of Nature.—The natural relations existing between different nations. The peaceful relations between different nations. War.

118. Religious Society.

119. History of Philosophy.—Ancient. Oriental. Mediæval. Modern.

RELIGION

CHRISTIAN DOCTRINE

120. Dogma.—Explanation of the principal dogmas, with special insistency on the continuity of the Church. The Church and science. Objections.
Christian Brothers, *Manual of Christian Doctrine.*

121. Moral.—Explanations of the fundamental principles of Christian morality as contained in decalogue.
Christian Brothers, *Manual of Christian Doctrine.*

122. Worship.—Grace, prayer and the sacraments, with special reference to the Council of Trent and the tenets of Protestantism.
Christian Brothers, *Manual of Christian Doctrine.*

123. Apologetics.—Nature and necessity of revelation. Its criteria. Modern objections.

PRE-MEDICAL COURSE

REQUIREMENTS FOR THE STUDY OF MEDICINE

The Bureau of Medical Education and Licensure of Pennsylvania requires for admission to medical colleges in this State a standard four-year high school course or its equivalent, and "Not less than one year of college credits in chemistry, biology, physics, and a modern language other than the English language," or the equivalent thereof.

The College offers excellent opportunities for medical students who desire to fulfill these requirements. Students who wish to take only the minimum amount may arrange for a special roster as follows:

	Credit Units
Physics, General (100), Two periods lecture, Four periods laboratory	4
Physics, Advanced (103), Two periods lecture, Four periods laboratory	4
Chemistry, General Inorganic (7), Two periods lecture, Six periods laboratory	5
Chemistry, Qualitative Analysis (9), One period lecture, Eight periods laboratory	5
Biology (3), Two periods lecture, Four periods laboratory	4
German or French	4
English, Freshman	3

LA SALLE COLLEGE
HIGH SCHOOL DEPARTMENT

The aim of the High School Department is to prepare for entrance to the college. The studies conform to the requirements of the College Entrance Examination Board.

The requirements for admission to the High School Department are preliminary studies prescribed by the Council of Universities and Colleges. The most favorable time for entrance is at the beginning of the scholastic year.

The classes are frequently examined, and the students are not allowed to pass from one subject to another until they have given evidence of adequate knowledge of the subject. A student who shows by the results of the examinations that he is unable to keep up with his class will be placed in a lower grade.

Summarized reports of the examinations are sent to the parents at the end of each quarter. Since each report shows the exact standing of the student, it should be carefully examined by his parent or guardian. Cards indicating the weekly record are distributed each week by the Inspector, who comments upon them before the professors and students of the class.

Promotions are based on the joint results of the examinations and the daily marks. No student will be allowed to pass from one class to another unless he has given satisfactory proof of his ability to follow the higher class.

At least three hours a day should be given to the preparation of class work.

The active co-operation of parents with the faculty is essential to the progress of the student. Parents are, therefore, requested to insist upon regular attendance and careful preparation of class work.

A written excuse from parent or guardian is required in all cases of absence. This excuse will not be accepted in lieu of omitted class work.

COURSE OF STUDY

The figures in parentheses indicate the number of recitations per week.

FIRST YEAR

ENGLISH. (5), Hanson, Two Years' Course in English Composition; Irving, Sketch Book; Parkman, Oregon Trail; Stevenson, Treasure Island; Macaulay, Lays of Ancient Rome.

HISTORY. (5), Ancient, Meyers' General History, Eastern Nations, Greece and Rome.

ALGEBRA. (5), Wells' First Course.

GERMAN. (5), Grammar, Bacon; Guerber, Märchen und Erzählungen, Part I.

SCIENCE. (5), Physical Geography, Maury-Simonds.

DRAWING. (1), Linear, C. B. System, Book I.

ELOCUTION. (1).

CHRISTIAN DOCTRINE. (5), Christian Brothers' Series, No. 4.

PHYSICAL TRAINING. (2), half hour periods.

SECOND YEAR

ENGLISH. (3), Hanson, Two Years' Course in English Composition; Goldsmith, The Deserted Village; Eliot, Silas Marner; Shakespeare, Merchant of Venice; Bunyan, Pilgrim's Progress.

PLANE GEOMETRY. (5), Wells' Plane Geometry.

HISTORY. (3), Meyers' General History. Medieval and Modern.

FRENCH. (5), Fraser and Squair, Shorter French Course; Guerber, Contes et Légendes.

GERMAN. (5), Grammar, Bacon; Hillern, Höher als die Kirche; Schiller, Der Neffe als Onkel; Immensee, Storm; Zschokke, Der zerbrochene Krug.

SCIENCE.

Physics, (3), Hoadley, pp. 1-207.

Laboratory, (1), double period.

DRAWING. (1), Linear, C. B. System, Book II.

ELOCUTION. (1).

CHRISTIAN DOCTRINE. (5), half hour periods, C. B., No. 3.

PHYSICAL TRAINING. (1).

THIRD YEAR

ENGLISH. (3), Rhetoric and Composition, Brooks and Hubbard, pp. 113-195, pp. 426-433; The Sir Roger de Coverley Papers; Shakespeare, Henry V; Dickens, A Tale of Two Cities; Tennyson, Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur.

HISTORY. (3), English, Montgomery.

ELOCUTION. (1).

SOLID GEOMETRY (First Term). (5), Wells' Solid Geometry.

INTERMEDIATE ALGEBRA (Second Term). (5), Wells' Elementary Algebra.

GERMAN. (5), Grammar, Bacon; Riehl, Der Fluch der Schönheit; Heyse, L'Arrabbiata; Benedix, Nein; Goethe, Hermann und Dorothea.

FRENCH. (5), Fraser and Squair, Shorter French Course; Daudet, Neuf Contes Choisis; Labiche et Martin, La Poudre aux Yeux; Mairet, La Tâche du Petit Pierre.

DRAWING. (2), C. B. Method, Book I, Projections.

SCIENCE.

Physics, (4), Hoadley, completed.

Laboratory, (1), double period.

CHRISTIAN DOCTRINE. Christian Brothers' Series, No. 4.

PHYSICAL TRAINING. (2), half hour periods.

FOURTH YEAR

English. (3), Gardiner, Kittredge and Arnold, Manual of Composition and Rhetoric; Burke, Speech on Conciliation with America; Milton, L'Allegro, Il Penseroso, Comus; Macaulay, Life of Johnson; Shakespeare, Macbeth.

Trigonometry. (5), Wells' Plane and Spherical Trigonometry.

French. (5), Fraser and Squair, Shorter French Course; Enault, Le Chien du Capitaine; Labiche, La Grammaire; Sarcey, Le Siége de Paris; Racine, Esther.

German. (5) Grammar, Learned; Fulda, Der Talisman; Goethe, Iphigenie auf Tauris; Inkognito, Der Arme Spielmann. (Grillparzer.)

History. (3), American History and Civil Government.

Science.

Chemistry, (5), Newell.

Laboratory, (1), double period.

Christian Doctrine. (5), Christian Brothers' Series, No. 4.

Elocution. (1).

Physical Training. (2), half hour periods.

Drawing. (2), Machine.

LA SALLE COLLEGE
SCHOOL OF COMMERCE

Students who desire to prepare for mercantile life will find every facility in the Commercial Department. This department does not limit itself to purely business branches. Subjects of general culture are also included.

English composition and letter writing receive special attention. The student is required to treat prescribed subjects in a manner that will enable him to write with ease and elegance. Questions relating to political economy and commercial law are discussed in the class room in order to give the students correct ideas on the vital questions of daily life. Weekly lessons are given in the art of public speaking, in order that the student may acquire an easy and graceful delivery.

The mathematics taught include a complete course of commercial arithmetic and an elementary course of algebra and mensuration.

The students receive a thorough course in standard business methods and in the science of accounts.

Shorthand and typewriting are essential to the course, and an ample opportunity is afforded for practice in these branches of office work.

The rules governing the School of Commerce are similar to those of the High School.

The Commercial Course comprises two years' work, and the students who complete the course receive a certificate as a guarantee of their fitness for mercantile employment.

GENERAL COURSE

FIRST YEAR

ENGLISH.—Hanson, Two Years' Course in English Composition; Lowell, The Vision of Sir Launfal; Stevenson, Treasure Island; Coleridge, The Ancient Mariner; Parkman, Oregon Trail.

CIVICS.—State civics, Federal civics.

COMMERCIAL LAW.—Richardson.

COMMERCIAL GEOGRAPHY.—Tilden.

SHORTHAND.—Pitman.

TYPEWRITING.—Mechanism and care, touch method, duplicating, carbon work.

BOOKKEEPING.—Twentieth Century System.

COMMERCIAL ARITHMETIC.—

ELOCUTION.—

RELIGION.—Christian Brothers' Catechism, No. 4.

PHYSICAL CULTURE.—

SECOND YEAR—First Term

ENGLISH.—Hanson, Two Years' Course in English Composition; Irving, Sketch Book; Shakespeare, Merchant of Venice; Eliot, Silas Marner; Goldsmith, The Deserted Village.

COMMERCIAL LAW.—Richardson.

SHORTHAND.—Pitman.

TYPEWRITING.—Transcription of shorthand notes, speed practice, stencil work, legal forms.

OFFICE METHODS.—Filing, indexing, tabulating, card (in connection with typewriting lessons).

Advanced Business Arithmetic.—Proportion, alligation, practical measurements, rapid and accurate calculation in the four rules, interest and discount.

Elocution.—

Religion.—Christian Brothers' Series, No. 4.

Advanced Bookkeeping.—Special columns, voucher system, single to double entry, capital stock, bonds, loose leaf and card system.

Physical Culture.—

SHORTHAND AND TYPEWRITING COURSE

Shorthand, Typewriting, English, Duplicating Processes, Use of Letter Press, Letter Filing, Card Indexing, and Office Practice.

SCHOLARSHIPS

The Henry T. Coleman Scholarship, founded by the late Henry T. Coleman, Esq., in 1903.

The William F. Harrity Scholarship, founded by the late Hon. William F. Harrity, in 1913.

The Class of 1896 Scholarship, founded in 1914.

The Patrick Curran Scholarship, founded in 1914 by the Rev. E. J. Curran, A. M., in memory of his father.

MEDALS AND PRIZES

The Ryan purse of $50 is offered by James J. Ryan, G. C. S. G., to the student of the Senior Class who has the best record of scholarship upon the regular work of the year.

The Archbishop medal for Oratory, the gift of the Most Rev. Edmond F. Prendergast, D. D., is open to all college students.

The Harrity memorial medal for Religious Instruction, founded by Mrs. Rose N. Harrity, in memory of her husband, Mr. William F. Harrity, is open to all college students.

The Anastasia McNichol medal for English Essay, founded by Hon. James P. McNichol, is open to all college students.

A prize of twenty-five (25) dollars is offered to the student of the High School Department who has made the best record for the four years of course.

LA SALLE COLLEGE ALUMNI ASSOCIATION

PRESIDENT, Joseph P. Gaffney, Esq.
FIRST VICE-PRESIDENT, Rt. Rev. Monsignor P. R. McDevitt.
SECOND VICE-PRESIDENT, Joseph M. McCarron, D. D. S.
SECRETARY, John B. Wurtz, M. D.
TREASURER, J. Joseph McHugh.
HISTORIAN, Rev. Edward J. Curran.

FORTY-SIXTH ANNUAL COMMENCEMENT

FRIDAY, JUNE THIRTEENTH

NINETEEN HUNDRED THIRTEEN

PROGRAM

OVERTURE—"Poet and Peasant" - - *Suppe*

"The Ozanam Centenary" - Edward Joseph McNichol

"Roses from the South"—Waltz - - *J. Strauss*

"International Peace and Public Opinion"
Joseph Alphonsus Michels

"Pizzicato from Sylvia" - - - - *Delibes*

MASTER'S ORATION—"The Menace of Socialism"
Andrew Francis Quinn, Jr., A. B. '09

"American Selections" - - - - R. Smith

CONFERRING OF DEGREES

ADDRESS TO THE GRADUATES
Edward de Vaux Morrell, A. M., LL. B.

"Selections from the Spring Maid" - - *Reinhardt*

AWARDING OF MEDALS

MARCH—"The Victor" - - - *C. Blohm*

GRADUATES

MASTER OF ARTS

Rev. Joseph Stephen Kelly
Alfred Joseph Josopait, '06
Daniel Vincent McLaughlin, '09
Andrew Francis Quinn, Jr., LL. B., '09
Ignatius Aloysius Quinn, LL. B., '09
Henry Joseph Reinhart, '09
John George Wurtz, M. D., '04
Anthony Joseph Collins, '11

HIGH SCHOOL CERTIFICATES

Berchmans Paul Cotter
James Marion Doyle
George Patrick Glenn
John Thomas Greene, Jr.
Robert Aloysius Kane
Joseph Alphonsus Michels
Francis Aloysius Murray
Thomas Joseph Regan

COMMERCIAL DIPLOMAS

William Francis Barry
Charles James Becker
William Charles Bonner
Francis Charles Schulte
Daniel Joseph Walker

FORM OF BEQUEST TO LA SALLE COLLEGE

In the hope that friends of Christian Education may remember the needs of the College, the following form of bequest is appended:—

I give and bequeath to La Salle College in the City of Philadelphia

..... *Dollars,*

to be appropriated by the Trustees for the benefit of the College in such manner as they will consider most useful.

PRESSBOARD
PAMPHLET BINDER
~
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